ABSTRACT OF THE DISCLOSURE

Electroosmotic flow controllers and methods of fluid flow control are described. The invention uses an electroosmotically generated flow component in conjunction with a pressure driven flow component to modulate fluid flow. The devices and methods of the invention may include salt bridges for making electrical connection between a power supply and a channel filled with a porous dielectric material and a fluid. Embodiments including flow controllers and flow splitters are described as is their use in a variety of fluid handling applications.